

**REMARKS**

Claims 1-22 are pending in the present application. Claims 1, 13, 16, and 18 are the independent claims. In an Official Action dated 8/5/2004 claims 4-9 and 13-17 were acknowledged to contain allowable subject matter. Claims 4-9 were rejected, however, as dependent on a rejected base claim. Claims 13-17 were rejected along with claims 12-22 under 35 U.S.C. 112 as described below, but deemed allowable if rewritten to overcome the rejection under 35 U.S.C. 112.

Claims 12-22 were rejected under 35 U.S.C. 112 for their use of the term "token." The Official Action also rejected claims 1, 10, 12, 18-19, and 21-22 under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Pat. 5,963,945 ("Pal"). Claims 2, 3, 11, and 20 were rejected as allegedly obvious under 35 U.S.C. § 103(a) over Pal in view of U.S. Pat. 6,343,296 ("Lakhamraju").

In response to the above rejections, claims 1, 13, and 16-19, 21 and 22 have been amended. Claim 12 has been canceled. Independent claims 1 and 18 have also been reformatted for better readability.

Independent claims 1 and 18 have been clarified by stating explicitly that which was believed to be previously inherent in the claims. While the term "reuse count" was previously used, the occurrence that was counted by the reuse count was not explicit. In former claim 1, for example, the reuse count was "associated with" an identifier, thereby *implying* that the reuse count was counting the number of times the identifier was used. In the amended version of claims 1 and 18, this implication has been made explicit, by including language such as that in

amended claim 1: “wherein the first reuse count is incremented when the identifier is used to access the object.” Applicant submits that the amendments to claims 1 and 18 overcome the 102(b) rejection, and requests reconsideration and allowance in light of the explanations herein.

Claims 19, 21, and 22 have been amended to properly refer to independent claim 18, and to remove the term “token.” Claims 13, 16, and 17 have also been amended to remove many of the former references to the term “token.” Because Applicant believes that the term is definite in the context of this application, however, the term has not been removed from claim 13. Claim 13 provides “a token comprising a value selected from the list and a first reuse count.” Because the term is defined in both the specification and claim 13 itself, applicant believes the claim language is definite, and respectfully submits that the 112 rejection is overcome, and requests reconsideration and allowance of the claim.

It should be noted that the present amendments are made with the sole intention to clarify the claims, and, in some cases to remove excess and potentially limiting language from the claims to adequately protect Applicant’s rights to the subject matter of the invention. Any consequent narrowing of the claims is only to the minimal extent necessary to avoid the teachings of Pal. Nothing in these amendments should be interpreted or construed as disclaiming any of the scope or breadth of the original, unamended claims except to the extent such original, unamended claims are otherwise taught or suggested by the teachings of Pal.

The following format will be used to cite references in this response: The application for the present invention will be referred to as “App.” followed by the appropriate page and line number, e.g. “App. 2:10” refers to application page 2, line 10. The Official Action of 8/5/2004 will be referred to as “Official Action” followed by the page and, if necessary, a further

description of the intended location on the page. Patents will be referred to by an inventor, as set forth above, followed by a column and line number; e.g. "Pal 3:27" refers to Pal column 3, line 27.

**Rejection of Claims 12-22 Under 35 U.S.C. 112**

As stated above, claim 12 has been canceled, and claims 13-22 have been amended to overcome the outstanding 112 rejection. These claims were rejected as indefinite due to their use of the term "token." Official Action 2. While Applicant maintains that the term token is not indefinite, the issue is largely irrelevant because the term has been removed in most cases from the claims. In the case of claims 14-22, the term "token" has been removed entirely.

In claim 13, the term "token" is expressly defined in the claim itself. Claim 13 provides "a token comprising a value selected from the list and a first reuse count." Applicant believes this language is definite first of all because a token, as that term is used in the claim, can be construed as any entity that comprises 1. a value selected from the list, and 2. a first reuse count. The claim itself thus provides a definite description of a token.

Going a step further, the specification also provides a definition for a token. The terms "token" or "anonymous token" are used interchangeably. Thus, Applicants urge the examiner to look through the specification for the term "anonymous token" for the intended definition of the shorthand term "token." For example, the specification provides, "[i]n one embodiment of the present invention an anonymous token includes an anonymous token reuse count and an anonymous token value (handle) assigned to an object to identify and locate the object in memory." App. 3:15 – 3:18; *See also* App. 4:24 – 4:25. For an example of the interchangeable use of the terms "token" and "anonymous token," refer to App. 5:1 – 5:3.

Therefore, because Applicant has rendered the 112 rejection of claims 13-22 largely irrelevant by removing most occurrences of the term, and has demonstrated that the definition of the term is provided in claim 13 as well as in the specification, Applicant submits that the claim language is definite, the 112 rejection is overcome, and requests reconsideration and allowance of these claims.

**Rejection of Claims 1, 10, 12, 18-19, and 21-22 Under 35 U.S.C. 102(b)**

As stated above, original claims 1, 10, 12, 18-19, and 21-22 were rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Pal. Claim 12 has been canceled, and independent claims 1 and 18 have been amended. Dependent claims 19 and 21-22 have also been amended. In light of the amendments made herein, Applicant respectfully requests reconsideration and allowance for at least the following reasons.

Rejections under 35 U.S.C. 102(b) require that a reference disclose every element of a claim. According to the MPEP, “for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly.” MPEP § 706.02. Although there are many aspects of claims 1 and 18 that are not disclosed by Pal, this response will focus on just one such aspect. Pal does not disclose “*a first reuse count ... wherein the first reuse count is incremented when the identifier is used to access the object.*”

As will be described briefly below, the invention is different from Pal at least in that the occurrences that are counted by the invention are different than the occurrences that are counted by Pal. This difference is included in claims 1 and 18 by describing when the “reuse counter” of the claims is incremented: it is incremented when the token (or identifier or value) is used to

access an object. In Pal, on the other hand, a counter is incremented when a resource is allocated from a server to a client. A brief summary of Pal may be helpful.

### *Pal*

Pal is directed to synchronization of clients and servers, as suggested by the title, “Synchronization of a Client and a Server in a Prefetching Resource Allocation System.” When clients and servers are swapping resources back and forth, it can occur that the client thinks that the server is aware of the client’s possession of a particular resource, when in fact the server is not aware that the client has the resource. Pal uses counters at the server and at the client to solve this problem. As stated in Pal:

FIGS. 1B-1E depict the use of the counters in accordance with a preferred embodiment to overcome the synchronization problem described relative to FIG. 1A. As shown in FIG. 1B, a counter 116 is maintained at the server 100 and a counter 118 is maintained at the client 102. ... **The counter 116 of the server 100 is utilized such that before allocating an object to the client 102, the counter 116 is incremented. The client 102 utilizes its counter 118 such that it is incremented every time that it becomes aware of the allocation of an object on its behalf (i.e., receives an object).**

Pal, 5:27 – 5:41.

Thus, the counters in Pal are not RE-use counts, but rather allocation counts. As stated clearly above, Pal’s server increments the counter before allocating an object to the client, and the client increments its own counter when an object is allocated to it.

*Independent Claim 1*

Claim 1 has been amended to clearly distinguish Pal: the reuse count of claim 1 is used to count a different type of occurrence than the counters in Pal. Amended claim 1 reads as follows:

1. A method for providing efficient access to an object in a computer system, the method comprising:
  - associating an identifier with an allocated object, wherein the identifier is associated with a first reuse count and **wherein the first reuse count is incremented when the identifier is used to access the object;**
  - in response to a request to access the object:
    - comparing the first reuse count to a second reuse count, **wherein the second reuse count is incremented when the identifier is used to access the object;**
    - denying access to the object if the first reuse count does not match the second reuse count;
    - checking a validity indicator with at least two possible states comprising valid and invalid; and
    - denying access to the object if the validity indicator is in the invalid state.

The reuse count of the application counts the number of times a token is used to access an object, as reflected in the bolded text above, and in Application 9:12 – 9:17. The counters of Pal count the number of times an object has been allocated to a client. Pal, 5:27 – 5:41. (Note that the claim refers to an identifier, not a token, because an identifier or value is considered a part of a token, and the claim need not refer to the entire token at this juncture.)

To underscore this difference, consider a server and a client arrangement such as that of Pal. After allocating a resource to the client, the server knows nothing about whether applications are accessing the resource in the client's memory. If an application accesses a resource on the client ten times, will the counter on Pal's server be incremented? The answer is no. Pal's server-side counter will only be incremented when a new resource is allocated to the client. Therefore Pal's server is NOT counting access to an object in memory. More importantly, Pal's clients are

not keeping count of the number of times the resource is accessed. The clients, like the server, are counting the number of resources that have been allocated to the client from the server.

Therefore, because claim 1 specifies at least one element that is not present in Pal, Applicant respectfully requests withdrawal of the rejection and passage to issue of the application.

*Independent Claim 18*

Amended claim 18 includes many limitations similar to amended claim 1. In particular, it contains the clarification with regard to the type of occurrence that is counted. Claim 18 provides:

18. A computer system, comprising:  
    a processing unit; and  
    a memory including a data structure, the data structure comprising:  
        a list of available values, wherein at least one value selected from the list is associated with a first reuse count and **wherein the first reuse count is incremented when the value is used to access an object**;  
        a data array comprising an entry corresponding to the selected value, wherein the entry includes:  
            a validity indicator the state of which is definable to indicate whether an object associated with the entry is valid,  
            a second reuse count **wherein the second reuse count is incremented when the value is used to access an object**; and  
            an object reference.

As described with reference to claim 1, the language of the claims defines over Pal because it points out that the reuse count of the application counts the number of times a token is used to access an object, as reflected in the bolded text above, and in Application 9:12 – 9:17. In contrast, the counters of Pal count the number of times an object has been allocated to a client. Pal, 5:27 – 5:41. (Note that the claim refers to an identifier, not a token, because an identifier or

value is considered a part of a token, and the claim need not refer to the entire token at this juncture.)

Because claims 1 and 18 are allowable for the reasons set forth above, and claims 10, 19, and 21-22 depend either directly or indirectly from claims 1 and 18, it is respectfully submitted that these dependent claims are allowable for the same reasons. Withdrawal of the rejections under 35 U.S.C § 102(b) is thus earnestly solicited for the dependent claims as well as the independent claims.

**Rejection of Claims 2-3, 11, and 20 Under 35 U.S.C. 103(a)**

As stated above, claims 2-3, 11, and 20 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Pal in view of Lakhamraju. In light of the amendments made herein, Applicant respectfully requests withdrawal of these outstanding rejections and issue of the claims for at least the following reasons.

Rejections under 35 U.S.C. 103(a) require that the reference (or combination of references) disclose every element of the claim. As stated in the MPEP, “the prior art references (or references when combined) must teach or suggest all the claim limitations.” MPEP § 706.02(j). Also, “[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.” MPEP 2143.01.

Claims 2-3 and 11 are dependent on claim 1, and claim 20 is dependent on claim 18. Because claims 1 and 18 are allowable for the reasons set forth above, and claims 2-3, 11, and 20



DOCKET NO.: TN242/USYS-0113  
Application No.: 09/992,828  
Office Action Dated: August 5, 2004

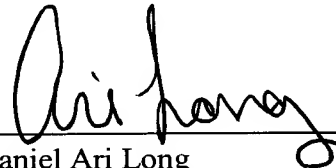
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depend either directly or indirectly from claims 1 and 18, it is respectfully submitted that these dependent claims are allowable for the same reasons. Applicant notes that the above-described deficiency in Pal is not remedied by Lakhamraju. While Lakhamraju, unlike Pal, is directed to referencing objects in memory, Lakhamraju does not disclose counters that are incremented when objects are accessed. Therefore neither Lakhamraju nor Pal disclose, "*a first reuse count ... wherein the first reuse count is incremented when the value is used to access an object,*" as in claims 2-3, 11, and 20. Withdrawal of the rejections under 35 U.S.C § 102(b) is thus earnestly solicited for the dependent claims as well as the independent claims.

**Conclusion**

Applicant believes that the present reply is responsive to each of the points raised by the Examiner in the outstanding Official Action, and submits that claims 1-11 and 13-22 of the application are in condition for allowance. Favorable consideration and passage to issue of the application at the Examiner's earliest convenience is earnestly requested.

Date: October 26, 2004



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